

Amendments to the Specification:

Please **replace** the first paragraph (after the title) at page 1 and spanning lines 5-8 with the following paragraph:

This application is a divisional of copending U.S. Patent Application Serial No. 09/919,633, filed on July 31, 2001, now U.S. Patent No. _____, which is a continuation of U.S. Patent Application Serial No. 09/660,208, filed on September 12, 2000, now abandoned, which is a divisional of U.S. Patent Application Serial No. 08/574,999, filed December 19, 1995, now U.S. Patent No. 6,224,681, which is a File Wrapper Continuation of Application Serial No. 08/278,984, filed July 22, 1994, now abandoned, which is a File Wrapper Continuation of original Application Serial No. 07/990,755, filed December 15, 1992, now abandoned, which are all incorporated by reference. This application is related to previously-filed copending U.S. Patent Application Serial No. 07/912,024, filed July 9, 1992, (now U.S. Pat. No. 5,419,924), which is a continuation of Serial No. 07/626,274, now abandoned.

Please **replace** the first full paragraph at page 4 and spanning lines 3-7 with the following paragraph:

An advantage of the invention is that the vaporizer forms vapor by expansion in a pressure gradient, rather than evaporation by heating, and therefore can vaporize liquid at high flow rate such as those needed for some semiconductor fabrication processes.

Please **replace** the second full paragraph at page 6 and spanning lines 19-25 with the following paragraph:

Remotely controllable (e.g., pneumatic) valves 13 and manual valves 15 are inserted on each line. These valves are opened and closed to enable normal operation and purge and evacuation operations. To enhance safety and fault-tolerance, each line having a remotely

controlled valve 13 also has a manual valve 15 which can be closed manually if the remotely controlled valve fails.

Please **replace** the second full paragraph at page 7 and spanning lines 16-29 with the following paragraph:

The piezo valve may be implemented with a commercially available piezo-electric valve, such as model IV1000 or IV2000 type, obtainable from STEC, Kyoto, Japan. In one embodiment, the valve typically operates at a flow rate of 0.3-0.6 grams/minute, in which case the gap between the diaphragm 54 and opening 49 is approximately 10 μm . (Excessive gap height can cause undesirable turbulence in the control valve bore 50.) In this embodiment, the piezo-electric valve can be selected to provide a 0-30 ~~m~~ μm gap adjustment range, e.g., at an input voltage of 5 Volts, the gap is 10-15 μm , and at an input voltage of 15 Volts, the gap is 30 μm . Thus, the piezoelectric valve not only provides liquid flow control, but can also operate temporarily to fully shut off liquid flow.

Please **replace** the first full paragraph at page 8 and spanning lines 7-22 with the following paragraph:

Referring to Fig. 2B, gas inlet port 36 is connected by passage 58 through valve body 42 to control valve bore 50. Outlet port 60 is connected by passage 62 through valve body 42 to the control valve bore 50. Housing 57 retains the diaphragm 54 in proximity to the valve body 42. Diaphragm 54 has a cylindrical center piston 61 (Fig. 2D) which is positioned parallel to, and an adjustable close spacing from, the surface of valve seat 53. Diaphragm 54 ~~also~~ also has thick annular edge 63 which rests on a circular lip 56 formed in the valve body 42. Diaphragm 54 is manufactured of stainless ~~steel~~ steel or a similarly flexible metal. Movable "spider" portion 59 of diaphragm 54 comprises a thin (e.g., 40-50 mil), elastic, annular sheet or membrane connecting the thick annular edge 63 and the cylindrical center piston 61. Annular O-ring seal 55 couples to the annular edge of diaphragm 54 and thereby contains the vapor/carrier mixture within valve bore 50.

Amendments to the Drawings:

Please replace the 5 pages of informal drawings bearing Figures 1, 2A through 2D, and 3 with the 5 pages of formal drawings bearing Figures 1, 2A through 2D, and 3, which are enclosed herewith. One annotated sheet showing a change to Figure 3 is appended to this paper.